December 1986

COMPACT disc Interactive

CD-I NEWS

Issued Monthly for the Consumer Electronics, Entertainment, Publishing, Information, and Education Industries

Single Issue: $20

Volume 1, Number 2

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HIGHLIGHTS

- **CD-I prototypes** will be made available from Philips by early 1987. Philips plans shipments of CD-I players to consumers at the end of 1987. (p. 1)
- At the **LaserActive '86 Conference** in Boston, CD-I emerged as a key topic, with programmers showing especially strong interest in CD-I. (p. 3)
- **Imedia International,** based in Paris, unveils its plans to produce a CD-I disc on the geography and history of Western Europe. The disc will combine games and encyclopedic information. (p. 8)
- **OptImage Interactive Services Co.** is formed by Philips and R.R. Donnelly to provide CD-I production facilities for programmers. The company began operation in the U.S. in November. (p. 9)
- **Discovery Systems** reveals its human factors research into CD-I. Its research will focus on social response to interactivity. (p. 9)
- **Grolier** is working with New Media Productions, a London A/V production house, to develop a CD-I version of Grolier's Academic American encyclopedia. (p. 11)

CD-I Prototypes Due Early 1987

Dr. Richard Bruno, Manager of Corporate Planning and Technology, Philips International, announced that Philips will deliver development prototype CD-I players by early 1987 to applications developers working with A.I.M. and Philips. In a keynote speech at the CD-Interact '86 conference sponsored by Micro-Trends (Chicago, October 1-4, 1986), Bruno said that he expected shipments to consumers in "reasonable quantities" by the end of 1987.

Jeff DeTray, publisher/editor of the CD-ROM Review, questioned Bruno on some of the technical features of CD-I. Specifically, DeTray objected to Bruno's assertion that the input device -- be it a joystick, mouse, track ball, full keyboard, or other device -- for CD-I is "up to the content developer." DeTray was concerned that the input device was not specified in the Green Book, and this could cause problems for content providers.

Dr. Bruno assured DeTray that the Green Book will define the base case CD-I player as supporting either a pointing device or a virtual keyboard. *(continued on page 2)*

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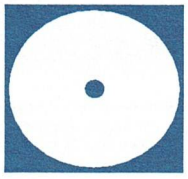

CD-I Prototypes Due... (continued from page 1)

According to Dr. Bruno, the pointer or "cursor" is defined as a device that will move the cursor pixel-by-pixel in an X-Y fashion. The physical form of the pointer can be a track ball, joystick, mouse, etc., so long as it generates signals compatible with the hardware definition. The pointing device must contain two "action" buttons, which are also defined by the Green Book hardware specs.

Dr. Bruno went on to explain that the virtual keyboard can be thought of as a picture keyboard that will appear on the screen when needed. He said that a user would manipulate the pointing device and action buttons to select letters one at a time. One concern is that this approach is suitable for only the smallest amount of text entry and input will become very tedious. Nevertheless, it does assure that any CD-I application requiring a keyboard will work on any CD-I system.

So what happens when there is a real keyboard connected to the CD-I player? Dr. Bruno pointed out that the application will detect the presence of the real keyboard and use it. Thus, the virtual keyboard will never be displayed so long as the physical keyboard is connected to the player.

CD-I players will have expansion capabilities by way of one or more connectors on the rear panel. The presence of other peripherals will be detected by applications, and the necessary hooks will be defined in the Green Book. Dr. Bruno emphasized that the exact nature and number of expansion connectors were as yet undetermined, but expected that one or more expansion connectors will be used. Philips plans to come out with more advanced CD-I development prototype players by the middle of 1987.

CD-I NEWS

Published by
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The editors of CD-I News welcome letters to the editor, submissions for opinion pieces, clippings of interesting articles, news tips, and any relevant information about this new industry.

Please mail your letters, comments, and suggestions to:

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In Forthcoming Issues

- **CD-I authoring** systems.
- **CD-I video** specifications.
- **Interview with Byron Turner** of EIM.
- **CD-I adoption** scenarios.
- **Bank Street College's** CD-I projects.
- **ICT's research** into CD-I.
- **EarthView's** CD-ROM audio project.
- **CD-I status** report.

LINK Resources acknowledges the financial support of N.V. Philips and other companies involved in this emerging industry in the introduction of CD-I News, and invites additional corporate sponsorship.

Annual individual subscription for 12 issues is $195, or the equivalent in your local currency at the time of invoicing.

NEWS

Programmers Look to CD-I as New Production Opportunity

CD-I emerged as an important topic at the LaserActive '86 Conference.

CD-I emerged as an important topic at the LaserActive '86 Conference held in Boston October 9-11. While the conference focused primarily on videodiscs, many producers in attendance sought out answers on CD-I, especially its full-motion video capability and potential applications.

The historic failure of interactive videodiscs in the consumer market led many in attendance to consider CD-I as a possible new programming opportunity.

A large audience was present to hear Larry Lowe, A.I.M.'s application design engineer, and Mark Heyer, a videodisc consultant, discuss the prospects of videodiscs, CD-I, and other interactive technologies.

Lowe presented a general introduction to CD-I stressing its technical aspects as well as applications.

Heyer used the anthropological analogy of "grazing" and "hunting" to conceptualize interactive media: He likened passive entertainment such as TV watching or record/disc listening to grazing, and the searching process involved in videodiscs and CD-I to hunting.

However, when pushed by questions from the audience, Heyer was cautious about consumer acceptance of interactive media. He stressed that based on his experience with videodiscs, one can't assume that consumers have a strong need or desire for interactivity. But he did note that interactive media offer the potential for greater user involvement, learning, and, ultimately, satisfaction.

Many programmers expressed concern about the fate of CD-I based on the failure of videodiscs in the consumer market. Defenders of this new digital technology argued that CD-I is a totally new medium that can't be compared to videodiscs and that the prospects for CD-I in the consumer market are enhanced by the success of CD-Audio. Rockley Miller, editor of the Videodisc Monitor, questioned the comparison made between CD-I and CD-Digital Audio, arguing that CD-I can't draw on the kind of catalogue of material that CD-Audio has built on.

Air Force Academy Exploring CD-I

The US Air Force Academy, in Colorado Springs, CO, has joined the ranks of organizations exploring CD-I. According to Bob James, Director of Faculty Research, the Academy is studying the usefulness of CD-I and CD-ROM in foreign language instruction.

James said that the Academy will present "its first major report" on the CD-ROM/CD-I study at the Technology and Training Conference in Colorado Springs in March, 1987.

The Air Force Academy's study of CD-I and CD-ROM, according to James, is part of its investigation into how "new communications technologies can enhance undergraduate education." He stressed that the Academy's goal is to build on the widespread use of personal computers. Currently, all freshmen cadets at the Academy have IBM PCs, and all students will have access to PCs by 1989.

James believes CD-I might serve as a valuable teaching tool for foreign languages, and that CD-ROM might be particularly useful in "storing large amounts of data" at the Academy.

NEWS

CD-ROM / CD-I Controversy Erupts in New York, London

The controversy over the similarities and differences between CD-I and CD-ROM shows no sign of disappearing. Last month, CD-I News addressed this issue in a cover story, "The Differences Between CD-I and CD-ROM." [CD-I News, November 1986] This month, we follow the story to the marketplace, where the two camps had a sharp exchange at trade shows in New York and London.

At the Optical Publishing '86 conference in New York, keynote speaker Gary Kildall, president and founder of KnowledgeSet Corp. a CD-ROM software development firm in Monterey, CA, argued that CD-I's most appealing feature -- multimedia interactivity -- would not attract consumer interest. "They've [adult consumers] been thinking all day. They've been challenged all day. They don't want to go home and be challenged by their own TV sets." He went on to compare CD-I to videodiscs and warned, "the fact is that consumers just didn't buy them [videodiscs]." Adelbert (Bert) Gall, manager of Philips' U.S. CD-I liaison office in Knoxville, TN, repeatedly stressed that CD-I and CD-ROM could coexist together in the marketplace. According to Gall, Philips is positioning CD-I for the consumer and educational markets, while CD-ROM is intended mainly for business markets.

"Anything on CD-I can be done on CD-ROM."

At the Electronic Publishing '86 conference in Wembley, England, John Durham of Archetype Systems was angry at the way his panel had degenerated into a heated debate about the differences between CD-I and CD-ROM. And Durham made his anger known to some of the top Philips CD-I officials in attendance. In doing so, he seemed to speak for many CD-ROM providers who feel threatened by the new technology just as the CD-ROM industry is prepared to take off. In response to charges that CD-I was sabotaging CD-ROM, a Philips official insisted, "But we're helping CD-ROM... We're laying the foundation [for the industry]." Durham just looked at the Philips executive in disbelief.

The controversy heated up when Jule Schwerin, President of Infotech and an influential CD-ROM consultant, stated flatly: "Anything on CD-I can be done on CD-ROM." The only difference between the two media, she insisted, is that CD-I provides "a lot more of a defined structure to work within." Joop Witvoet of Philips Corporate Group-Home Interactive Systems took the microphone in the audience and called Schwerin's assertion "very misleading." He argued that because CD-I was a multimedia consumer product and CD-ROM a text and data retrieval product for the business market, "you [Schwerin] missed the whole point of CD-I."

The controversy over the differences between CD-I and CD-ROM goes deeper than the technical specifications of each technology. The controversy is not unlike that arising from the expected introduction of Digital Audio Tape and its implications for Compact Disc-Digital Audio. New and potentially conflicting technologies challenge the vested interests of those established in as well as those entering a distinct market. Product acceptance and market share come at great expense, and the controversy surrounding the fledgling digital industries will only be resolved by design, application, and market forces over time. ⊙

New Guide to CD-I Out

CD-I and Interactive Videodisc Technology, a newly published book from Howard Sams and Company, gives a broad technical, design, and market overview of CD-I and interactive videodiscs. Edited by Steve Lambert and Jane Sallis, the 230-page book covers technical features of CD-I, authoring systems, potential applications, applications development, and other key subjects concerning CD-I. The book, priced at $24.95, also contains a comprehensive glossary and resource list on CD-I. It may be ordered from:

Dept. DM881
Howard W. Sams and Co.
4300 West 62nd Street
Indianapolis, IA 46268
1-800-428-SAMS

WORLD REPORT

E. I. M. Launched at Wembley Show

"I really believe CD-I is the electronic printing press of tomorrow."

Philips and PolyGram International have now made it clear their CD-I ambitions extend beyond the borders of the United States. With the announcement of European Interactive Media (EIM) at Electronic Publishing '86 in Wembley, England, two sides of the Philips family have united to form the European "counterpart" to American Interactive Media (see CD-I News November 1986). EIM's mission: "To spearhead the development in Europe of software" for Compact Disc-Interactive.

Byron M. Turner, President of EIM, was formerly Director of Creative Development in Europe for Activision, Inc., where he was in charge of developing the company's home computer software operations in Europe; he also spent eleven years with Thorn EMI, including a stint as Director of Thorn EMI Video.

Turner said EIM will attempt:
to provide technological expertise, authoritative counsel, creative capability, and access to manufacturing capacity through the company's relationship with Philips DuPont Optical... EIM can also assist in the development and execution of marketing and sales plans and provide distribution through the worldwide network of PolyGram International... We are committed to a global marketing strategy and our ultimate objective is to penetrate all applicable markets for the CD-I software catalogue to the greatest extent possible.

During his presentation at Electronic Publishing '86, Turner gave some intriguing hints as to how EIM expects CD-I software applications to evolve.

He again reiterated the AIM claim that "CD-I is intended as a mass-consumer device... We're looking at a low-cost device." In five years, he predicted a CD-I player should cost the same as a CD-Digital Audio player, and he stressed that the multimedia CD-I player "comes complete with a real-time operating system specifically developed for CD-I [based on Microware's OS-9]."

In order to clarify CD-I for his European audience, Turner also explained the types of video consumers can expect to see on CD-I -- still-frame pictures and "Hannah Barbara-type animation" that will take full advantage of the "next generation of TV [sets]." As a challenge to those in attendance who saw little difference between CD-I and CD-ROM, Turner blurted out: "Try doing that on a CD-ROM."

Turner also put his finger on the challenge that will determine the success of CD-I in the future: "I really believe CD-I is the electronic printing press of tomorrow... We've invented a printing press and now we have to figure out how to use it." Now EIM, like AIM in the United States, must nurture the "imagination and creativity of the people who produce the software."

The task will not be easy in the European environment. In response to a question from CD-I News, Turner stated: "I don't think there is a unique European market. I think there are a dozen European markets" -- a daunting CD-I marketing task indeed for EIM.

Birds on a Disc

Video Logic, an English software house, in conjunction with Microsoft, recently previewed a multimedia disc in England on British birds. This new laserdisc, which combines text, audio, and still-video, represents an approach to programming that CD-I will more fully realize.

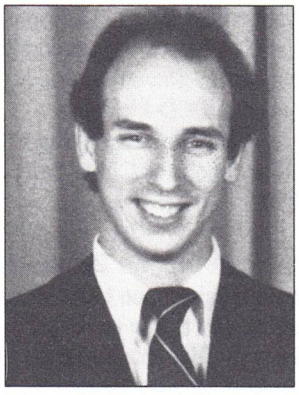
The preview disc, which is based on an IBM PC, allows users to select from "film quality" images of birds, and access information on their natural habitats, feeding habits, and other features. Simultaneously, users can hear each bird's distinctive sounds as well as commentary by English natural history presenter David Attenborough. *(continued on page 8)*

INTERVIEW

MARC FINER

President, Communication Research

Interviewed by Michael Conniff



LINK: Why don't you tell us a little about your background and how you became involved with CD-I.

FINER: As you know, I was an employee of Sony Corporation of America for a number of years and served as Product Communications Manager for the Consumer Audio Division. Sony has played a pivotal role, along with Philips, in the development of both the CD-Audio and CD-ROM formats. Now, as an independent consultant, I track the hardware and software industries while paying particular attention to new applications for Compact Disc such as CD-I.

LINK: What do you see as the relationship between what happened in the CD-Digital Audio market and what will happen in CD-I?

MF: I think the most important aspect of what happened in the CD-Audio market was that you had not just a format standardization, but the coming together of both the hardware and software industries to support this new format. Considering how successful the industry was in the marketing of CD-Audio, there is no reason why this partnership cannot be extended into a more dedicated interactive application for Compact Disc.

LINK: Where will [CD-I] software come from?

MF: To me, it's obvious that the music and computer industries will both have to play a major role in the formation of CD-I software for the consumer, if the concept is going to succeed on a mass market level. And, if there is no support from the retailing end of the entertainment industry, then it is going to be very difficult to break this product out of the ranks of the so-called computer peripheral products.

LINK: What is the awareness level of CD-I in the motion picture and record industries?

MF: I think at this point the awareness level is relatively low for both. I think it is going to take time to generate more awareness even with the people who are familiar with CD-Audio from the music industry. These people, as of yet, do not fully understand why this product [CD-I] is important for the marketplace.

LINK: You mentioned the coming together of the key people in the motion picture and record industries with the computer industry. Our sense is that these two industries are speaking two different languages. How do you see them coming together?

MF: I feel that the most important way they can come together is through a recognition of each other's role in CD-I software development, particularly in terms of supporting each other's contribution.

LINK: How do you see the role of those two?

MF: One of the most interesting things about CD-I is the various data that can be developed for different types of application software. For example, you could find a dedicated CD-I software package developed as a computer peripheral which might not impact the mass majority of consumers, but might be perfect for those looking for a spreadsheet in business. But there will also be much more consumer-oriented entertainment software introduced. I think you will find the motion picture and music companies eventually following this route. Recognizing the contribution that each type of software makes will help establish a successful foundation for hardware introduction.

LINK: How would you describe the retailers' attitude toward CD-I now?

MF: The role of the retailer is the most important of all. You have to remember that many of the people in the hardware industry that have had success with CD-Audio today made comments about CD-Audio only three years ago that were incredible. Back then, you heard many retailers say "Why do we need this?"..."How can I sell this?"..."How do I know that it will succeed before I invest time

'It's obvious that the music and computer industries will both have to play a major role in the formation of CD-I software."

"I think retailers are totally ignorant of what CD-I is."

and money on this new format?" Today, these comments seem almost ludicrous because Compact Disc has gone on to become the fastest selling new product in consumer electronics history. The reason why these comments are so typical is that retailers are not in a position to introduce any new products without strong support from manufacturers. Support is never automatic; it has to be cultivated particularly when there is a multi-faceted product like Compact Disc. This is why the retailer will have to be brought into the fold as soon as possible if CD-I is going to have a good chance to succeed. I think retailers now are totally ignorant of what CD-I is. The expansion of CD-Audio into CD-I and CD-Video hasn't yet affected the thinking of the vast majority of retailers.

LINK: It sounds like a very cluttered retailer's shelf with CD-Video, CD-I, CD-Audio, and all those other products. Is there a chance that CD-I could get lost in the shuffle of those other products?

MF: Of course, and I think it would be foolish for anyone to think otherwise. The history of the consumer electronics industry is littered with products and formats that died stillborn in the marketplace. Set aside technology for the moment, and you will find a common theme that runs through all these product failures: each was launched with insufficient support from their respective industries. CD-I will have to eventually compete with a number of new product introductions for the attention and support of the retailing community. Those products with the best support mechanism in place will probably be the survivors.

LINK: Isn't CD-I pretty much in a chicken and egg situation?

MF: Yes, very much so, but in this case, the egg must come first. In this analogy, the egg is a new kind of software as opposed to just a new configuration. The egg also means different things for different people. While there could be exciting new software, such as the history of London over the past 400 years [being developed by the Record Group], this is just one product; for every one person who says they need that particular product, there will be a dozen or many people who say they don't. Therefore, there has to be a breadth of software in a number of different areas that will satisfy many customer needs. And all of this software must still be targeted with a specific price and introduction timetable that is in tandem with hardware manufacturers' introductions.

LINK: When do you think CD-I software will be available?

MF: From what I hear, the first software introductions are not scheduled until at least late 1987.

LINK: Late 1987?

MF: Late 1987, with the majority of software unavailable until the 1988 period or thereafter. But there is no real reason for alarm, given the fact that this parallels developments in CD-Audio which is just now extending into the so-called mass marketing penetration levels. By the end of 1986, CD-Audio players will have realized roughly a 4% household penetration rate in the U.S. Now that is very good given the short history of Compact Disc, but it pales in comparison to other current consumer electronic products such as VCRs and color televisions. With CD-Audio, we have just scratched the surface, and, if you talk to most manufacturers on both the hardware and software side of the industry, I am certain that you will discover that they would rather take their time to slowly bring out a product and insure success rather than rush something out and doom it to failure because of insufficient support.

LINK: Do you think American consumers are going to want CD-I?

MF: In the final analysis, it will depend on how it is presented to them. Will it be a full scale, totally developed concept that offers significant conveniences and benefits? Or will it be just another product that's dumped on the public in a very haphazard fashion? Consumers have always failed to respond to the second scenario; it will not prove any different just because the magic words "Compact Disc" are part of the concept. But if the market is developed as carefully as the CD-Audio was, there is no reason why CD-I can't be a successful new product and a profitable experience for manufacturers of hardware and software alike.

WORLD REPORT

All You Ever Wanted to Know about Western Europe on One CD-I Disc

Leenhardt touts the [CD-I] disc as "really designed to be a CD-I project from scratch."

Imedia International, a Paris-based production company mainly involved with interactive video, is planning to embark on an ambitious CD-I disc covering the geography and history of Western Europe. Combining interactive games and encyclopedia-type information, the disc is planned to be both entertaining and educational. Cyril Leenhardt, Director of Imedia, Inc., the company's U.S. subsidiary, touts the disc as "really designed to be a CD-I project from scratch." He says the company "plans to use as much existing material as possible" for the disc, which will contain audio, text, graphics, and still-video material.

Imedia is currently seeking funds to support its production effort. The company has already formulated an outline and objectives for the disc. They have a commitment from a French publisher for partial funding and are seeking additional support from European Interactive Media [see accompanying article on EIM] and other sources. If all goes according to schedule, Imedia hopes to have a disc on the market by the beginning of 1988.

The disc will present material in at least three languages, including French and English. It will contain 1600 graphic pictures, including 200 pictures per game and 30 pictures per country in the general database. In addition, current plans call for 500 still video images and 4 channels of sound. The disc would carry 9 hours of speech, with 3 hours in each of the three designated languages. Imedia expects to devote 55 megabytes to graphics, 300 for audio, and 135 for text. Leenhardt noted that Imedia still "lacks certain technical information" about CD-I.

One portion of the disc will probably contain about 6 games, including adventure and quiz games, with varying degrees of interactivity. The games are intended to provide quicker and easier access to the encyclopedic information on the disc and have been "precisely defined," Leenhardt points out.

The projected budget for the disc is 4,500,000 francs (US/$680,000). Pierre Saulay will serve as project director for Imedia's CD-I project. ⊙

Birds on a Disc *(continued from page 5)*

The demonstration disc used Microsoft's Rbase 5000 software and ran on Video Logic's Multi-Media Interactive Control System (MIC). (Microsoft distributes the Rbase 5000 software internationally for Microrim.) The MIC system uses laser and video technology, and enables a computer to retrieve any information on a CD.

Alastair Thomas, a Video Logic programmer working on the MIC system, calls the disc "a simple application that shows an alternative use of both commercial database software and video and laserdisc technology." Video Logic, together with Microsoft, is marketing the MIC system to those seeking visual enhancements of items already stored in databases.

During the early phase of CD-I introduction, there will be numerous innovative uses of microcomputerized programming, videodiscs, and CD-ROM discs simulating the full multi-media capabilities of CD-I. This disc suggests a promising application for CD-I by combining still-video, audio and random access capabilities. With these capabilities, it should add considerably to an understanding of birds. ⊙

INDUSTRY UPDATE

New CD-I Production Studio Announced

N.V. Philips and R.R. Donnelley and Sons, the largest printing firm in the U.S., have announced the formation of OptImage Interactive Services Co. This new venture, headquartered in Chicago, will provide production facilities and other services for CD-I programming. Roger Missimer, formerly Vice President of Marketing at Donnelley, has been appointed President and Chief Executive Officer of OptImage.

The new company began North American operations in November, and its European arm, which will be based in London, is scheduled to open shop in January, 1987. Production activities in the US operation are expected to start by the second quarter of 1987, with production activities in Europe set to start in 1988.

John Schwemm, Chairman and President of Donnelley, called this new joint venture "a logical enhancement of Donnelley's current capabilities as a full service printing company in a promising new area. Philips, the inventor of the optical disc technologies, is an outstanding partner for us."

David Geest, Senior Managing Director and Chairman of Philips International, Corporate Group-Home Interactive Systems, explained that the joint venture "will insure that proper facilities and support are provided to a broad spectrum of suppliers of information and software with the help of a partner that is well known for its full service and value added approach to the publishing industry. For Philips, it also means that a further major step has been taken to foster electronic publishing on interactive media."

Human Factors Research on CD-I Underway

Alta Associates, a division of Discovery Systems, launched a full-scale "human factors" research program into the behavioral aspects of CD-I in September. According to Patty Moore, Director of Corporate Communications for Discovery, Alta has undertaken this groundbreaking basic research because "the most important thing to do now is to try to understand the medium, particularly the human interface with the medium."

"We want to find out as much as possible about user attitudes towards CD-I."

Discovery Systems, based in Dublin, Ohio, currently manufactures CD-Audio discs, and plans to manufacture 12" videodiscs, CD-ROM discs, and CD-I discs as well. The company also intends to produce CD-I software for the consumer market and CD-ROM discs. Alta plans to produce CD-I and videodisc software for the industrial and educational markets.

Robert Archibald, Discovery's V.P. of Marketing and Alta's President, further clarified the company's intentions: "We want to find out as much as possible about user attitudes towards CD-I before we start making CD-I product." He pointed out that "tremendous behavioral change" among individual consumers is required for CD-I to take off, but felt that "the reward for that change is tremendous and will allow the industry to drive itself."

Alta is focusing its primary research on social response to interactivity. The goal will be to determine how consumers view CD-I and other interactive media, and to evoke, in Archibald's words, "meaningful metaphors" for CD-I with users. The research will pose such questions as whether consumers are prepared for interactivity and how they will adapt to CD-I.

"Since we still don't know exactly what works with interactive media," Archibald explains, "we want to make sure that we don't make the same mistake with CD-I that was made with laser videodiscs." The research study will examine the amount of time users are willing to spend interacting with CD-I equipment and the speed at which users absorb information from CD-I. Archibald adds, "Alta will delve more into the learning processess of users."

Alta's research is initally being conducted with targeted populations, such as learning disabled children and elderly people. According

(continued on page 11)

INDUSTRY UPDATE

Philips Unveils Its Ambitious Laser/ CD Strategy

Messerschmitt placed Philips' efforts in CD-I within a wider context of digital and laser technologies.

John Messerschmitt, Vice President of North American Philips, unveiled Philips' overall laser disc/CD strategy at the Optical Publishing '86 Conference held in New York October 15-17. N.A. Philips is the American arm of the giant multinational electronics vendor and had net sales of $4.4 billion in 1985.

Messerschmitt placed Philips' efforts in CD-I within a wider context of digital and laser technologies. Among the key features of this comprehensive strategy are: Compact Disc-Video, a full-motion analog system on a compact disc; and the Omni player, which will combine CD and laserdisc technologies. [See accompanying chart.]

Many in the audience questioned Messerschmitt about CD-I, particularly its full-motion video capability. Messerschmitt stressed Philips' excitement about CD-I, and the strong impact it will have on the consumer marketplace.

Messerschmitt told those in attendance that CD-I authoring tools will be made available shortly.

Other Philips' spokespeople at the conference gave further clarification on Philips' optical strategy. Bob Moes, Director of Marketing for Philips Subsystems, focused primarily on CD-ROM, and stressed that CD-I won't threaten CD-ROM. He stated that CD-I is aimed primarily at the consumer and educational markets, while CD-ROM is intended for the business market. Susan Baker, CD-I Product Marketing Manager for American Interactive Media, outlined AIM's goals of seeding applications ventures.

The Family of Home Optical Disc Players

	PASSIVE					INTERACTIVE			
	MUSIC	MUSIC & LYRICS	VIDEO CLIP	MUSIC VIDEO	MOVIES	ENTER-TAINMENT	EDUCA-TION	EDUTAIN-MENT	INFOR-MATION
CD-AUDIO	⊙								
CD-VIDEO CLIP	⊙		⊙						
CD-AUDIO GRAPHICS	⊙	⊙							
CD-VIDEO (COMBI PLAYER)	⊙	⊙	⊙	⊙	⊙				
CD-INTERACTIVE	⊙	⊙				⊙	⊙	⊙	⊙
CD-VIDEO INTERACTIVE (OMNI PLAYER)	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

PHILIPS

APPLICATIONS UPDATE

Grolier Turns to London A/V House for CD-I Encyclopedia

Grolier Inc, publisher of online, videodisc, CD-ROM, and standard print encyclopedias, has long been a pioneer in the interactive field. To develop a CD-I encyclopedia application, Grolier has turned to New Media Productions Limited, a small audio/visual design house based in London.

Confirming a rumor circulating in CD-I circles for weeks, New Media Productions Managing Director Dick Fletcher told the audience at Electronic Publishing '86 in Wembley, England, that Grolier had commissioned his company to develop a Compact Disc-Interactive version of Grolier's Academic American Encyclopedia. The New Media production will use the electronic version of the encyclopedia, which is currently available through on-line services and on CD-ROM.

Fletcher questioned the CD-I mass-market approach used by some consumer electronics forms:

The question is, what are people going to do with this machine? What happens when you turn it on? I don't think a mass-consumer market will develop.

"The question is, what are people going to do with this [CD-I] machine?"

Instead, Fletcher approached CD-I from another point of view: "How would you get the young upwardly mobile professionals... to flock into High Street [London] stores to buy CD-I discs?" To do so, he said, CD-I must "enhance experiences people already have... We've got to persuade people to change their habits."

In working with the Grolier encyclopedia, Fletcher and his staff -- a producer and production assistant -- have the parlous task of doing justice to "the whole of human knowledge."

There are obvious advantages to CD-I, according to Fletcher, including the "liberty of reference [cross-referencing] not currently available via the printed page" and "images to accompany sounds." But all of this potential can be almost overwhelming to the designer, as Fletcher acknowledged:

We're wrestling with it at the moment. Once you switch this machine on, what are you going to see? ... We need to illustrate... We need to use pictures to do what text will not do.

"The most difficult thing was the first three screens," Fletcher told CD-I News after his presentation. "But we've cracked that, we're designing a direct and clear route through visual elements. It's like a series of A/V presentations." Fletcher's New Media Productions, like The Record Group in Burbank, California (see CD-I News November 1986), "storyboards" the CD-I "script" before actually implementing the design concept.

Grolier's move into CD-I should help to generate increased interest in the institutional/educational marketplace. The involvement of an audio/visual design house like New Media is a further indication of the varied mix of skills entering the nascent industry.

Human Factors... (continued from page 9)

to Archibald, "we are doing research into human factors concerning CD-I which will lead us to questions about the CD-I market. In other words, we're asking such questions as: if CD-I works, where does it work, and how large is the market for CD-I?" Archibald said that Alta will be "developing pilot programs in CD-I, and developing concepts on CD-I based on specific applications. We'll have the capability to test products in development, and will work with educational technologists, video producers, and software engineers."

Places to Be...

CD-I: BIRTH OF A BILLION DOLLAR INDUSTRY

January 11-13, 1987

Sheraton Sands Key
Clearwater, Florida

The fourth in a series of Institute for Graphic Communications conferences on optical technology will focus on CD-I. The conference will examine CD-I technology, applications and marketing. Speakers will include Roger Missimer (OptImage), John O'Brien (Laserland), and Philips representatives.

Institute for Graphic Communications
375 Commonwealth Avenue
Boston, MA 02175
(617) 267-9425

$725

INFORMATION INDUSTRY ASSOCIATION--ANNUAL HIGH TECH MARKETING CONFERENCE

February 12-14, 1987

Boca Raton Hotel
Boca Raton, Florida

This conference will focus on innovation in technology for the mass market. The keynote dinner address will be delivered by David Geest, senior managing director and chairman, Philips Corporate Group-Home Interactive Systems.

Information Industry Association
555 New Jersey Avenue, N.W.
Suite 800
Washington, D.C. 20001
(202) 639-8262

$345 for IIA members; $445 for non-members.

MICROSOFT'S SECOND INTERNATIONAL CONFERENCE ON CD-ROM TECHNOLOGY

March 3-5, 1987

Seattle Sheraton
Seattle

This conference "will focus on product development, application design, and publishing" in CD-ROM.

Microsoft
16011 N.E. 36th Way
Box 97017
Redmond, WA 98073
(206) 882-8080

OPTICA 87--INTERNATIONAL MEETING FOR OPTICAL PUBLISHING AND STORAGE

April 14-16, 1987

RAI Centre
Amsterdam

This is a new conference being spun off by Learned Information from their existing optical publishing activities. Papers are being sought for the conference, which will have also have an associated exhibition.

Learned Information, Ltd.
Woodside Hinksey Hill
Oxford, OX1 SAO, UK
0865-730275

CD-I: THE FUTURE--BUSINESS CONFERENCE AND EXHIBITION

May 11-13, 1987

Moscone Center
San Francisco

First conference to address broad range of CD-I marketing, product development and technical issues.

Online International Inc.
989 Avenue of the Americas
New York, NY 10018-5485
(212) 279-8890